

REMARKS

Claims 1-16 are pending in this application. By this Amendment, claims 1-10 and 12-16 are amended, and claims 17-22 are canceled without prejudice to or disclaimer of the subject matter recited therein. No new matter is added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

The Office Action objects to claims 1-10, 12-16, and 18-22 because of various informalities. Claims 1-10 and 12-16 are amended, and claims 17-22 are canceled to overcome the objection. Accordingly, Applicants respectfully request that the Examiner withdraw the objection.

The Office Action rejects claims 17-19 and 21-22 under 35 U.S.C. §102(b) as being anticipated by JP 50-118930; rejects claims 1-10 under 35 U.S.C. §103(a) as being unpatentable over Hamamura (U.S. Patent No. 4,959,273) in view of Lowenheim ("Electroplating," © 1978, pp. 212-213) and further in view of Du Rose (U.S. Patent No. 3,183,067); rejects claims 11-16 under 35 U.S.C. §103(a) as being unpatentable over Hamamura in view of Lowenheim; and rejects claim 20 as being unpatentable over JP 50-118930 in view of Lowenheim. The §102(b) and §103(a) rejections as they pertain to canceled claims 17-22 are now moot; Applicants, however, respectfully traverse the §103(a) rejections as they pertain to claims 1-16.

Specifically, Applicants assert that JP 50-118930, Hamamura, Lowenheim, and Du Rose, individually or in combination, fail to disclose or suggest a plating bath including at least a nickel source, wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on a nickel atom basis, and wherein the conductivity of the plating bath is 80 mS/cm or over, as recited in independent claims 1, 9, 11, and 16.

JP 50-118930 discloses a multilayer Ni electroplating technique including NiSO₄ and NiCl₂. JP 50-118930, however, fails to disclose a plating bath including at least a nickel

source, wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on a nickel atom basis, and wherein the conductivity of the plating bath is 80 mS/cm or over, as recited in claims 1, 9, 11, and 16.

Hamamura discloses a technique of applying electroless plating to a rare-earth magnet including an electroless nickel plating solution containing 0.1 mol/l of nickel, and a current density of 2.0 A/dm². However, because Hamamura does not disclose that the concentration of the nickel source is from 0.3 to 0.7 mol/l, and discloses a current density range (a parameter of a current applied during electroplating) which is irrelevant to the conductivity of the plating bath, Hamamura fails to disclose a plating bath including at least a nickel source, wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on a nickel atom basis, and wherein the conductivity of the plating bath is 80 mS/cm or over, as recited in claims 1, 9, 11, and 16.

Lowenheim discloses a Watts bath including a range of molarity of nickel sulfate of 0.86-1.43 mol/l, and a current density range of 250-1000 A/dm². However, because Lowenheim does not disclose that the concentration of the nickel source is from 0.3 to 0.7 mol/l, and discloses a current density range (a parameter of a current applied during electroplating) which is irrelevant to the conductivity of the plating bath, Lowenheim fails to disclose a plating bath including at least a nickel source, wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on a nickel atom basis, and wherein the conductivity of the plating bath is 80 mS/cm or over, as recited in claims 1, 9, 11, and 16.

Du Rose discloses a duplex plating layer which is formed by adding an organic sulfur compound to a Watts bath. Du Rose, however, also fails to disclose a plating bath including at least a nickel source, wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on a nickel atom basis, and wherein the conductivity of the plating bath is 80 mS/cm or

over, as recited in claims 1, 9, 11, and 16, and therefore, fails to make up for the deficiencies of JP 50-118930, Hamamura, and Lowenheim.

Accordingly, Applicants assert that JP 50-118930, Hamamura, Lowenheim, and Du Rose, individually or in combination, fail to disclose or suggest a plating bath including at least a nickel source, wherein the concentration of the nickel source is 0.3 mol/l to 0.7 mol/l on a nickel atom basis, and wherein the conductivity of the plating bath is 80 mS/cm or over, as recited in independent claims 1, 9, 11, and 16.

Further, Applicants assert that it would not have been obvious to one of ordinary skill in the art at the time the invention was made to expect that the plating bath disclosed by Hamamura has a conductivity of 80 mS/cm because a conductivity of 80 mS/cm or more cannot be attained by the concentration of nickel disclosed in Hamamura.

Further still, Applicants assert that the concentration of the nickel source of 0.7 mol/l of the present invention is different from the concentration of nickel sulfate of 0.86 mol/l of Lowenheim because the concentration of 0.86 mol/l of Lowenheim cannot attain a conductivity of 80 mS/cm or more, and thus, fails to achieve high conductivity while preventing an oxidation-reduction reaction, as the present invention.

In accordance with the above remarks, Applicants submit that independent claims 1, 9, 11, and 16 define patentable subject matter. Claims 2-8, 10, and 12-15 depend from claims 1, 9, and 11, respectively, and therefore, also define patentable subject matter, as well as for the additional features they recite. Thus, Applicants respectfully request that the Examiner withdraw the rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-16 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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